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Childhood matters: How benevolent and adverse childhood experiences shape alexithymia in perpetrators of sex crimes and the community sample

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ABSTRACT

Background: Benevolent childhood experiences (BCEs) and adverse childhood experiences (ACEs) influence individuals' emotional and behavioral development. ACEs can lead to alexithymia, increasing the risk of sexual offending.

Objectives: To analyze the link between ACEs, BCEs, and alexithymia; compare perpetrators of sex crimes with community participants regarding ACEs, BCEs, and alexithymia; and assess the predictors of alexithymia.

Participants: A sample of 732 adult males (523 from the community and 209 perpetrators of sex crimes) was used.

Method: Application of a sociodemographic questionnaire, the Adverse Childhood Experiences Questionnaire (ACEs), the Benevolent Childhood Experiences Scale (BCEs), and the Toronto Alexithymia Scale (TAS).

Results: We identified positive correlations between ACEs and TAS, and negative correlations between BCEs and TAS in both samples. Perpetrators of sex crimes show higher levels of ACEs, TAS, difficulty identifying feelings (DIF), and difficulty describing feelings (DDF) compared to the community sample. ACEs and BCEs are predictors of DIF and DDF in both samples.

Conclusion: The results highlight the significant influence of ACEs and BCEs on alexithymia and the differences between community individuals and perpetrators of sex crimes. It underscores the need for interventions to boost BCEs and reduce ACEs, alexithymia, and criminal behavior.

1. Introduction

Childhood represents a fundamental period in an individual's life (Rebecca & Arun, 2021), influenced by factors that shape physical, emotional, social, and cognitive development (Juwariah et al., 2022). Childhood experiences can be either benevolent (benevolent childhood experiences – BCEs) or adverse (adverse childhood experiences – ACEs), and significantly impact development (Webster, 2022).

ACEs encompass potentially traumatic events that affect young people (Novak & Lopes, 2022), including household dysfunction (e.g., incarceration of a household member) (Togas & Alexias, 2024), physical and emotional neglect (e.g., inadequate emotional

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support) (Rodriguez & Gonzalez, 2020) and sexual, physical, and emotional abuse (Grady et al., 2022). ACEs are associated with adverse physical health outcomes (Bethell et al., 2017), mental health issues (Webster, 2022), and behavioral problems (Madigan et al., 2023). These experiences can also contribute to deficits in emotional processing, leading to alexithymia (Salokangas et al., 2024).

In contrast to ACEs, BCEs refer to positive experiences in childhood (Hou et al., 2022), including comfortable beliefs, opportunities for enjoyment, stable household routines, positive school experiences (Narayan et al., 2023), effective parenting behaviors, and healthy attachment bonds (Crandall et al., 2019). BCEs are childhood resources that promote long-term well-being and have the potential to act as protective factors (Hou et al., 2022), conferring resilience in adverse contexts (Merrick et al., 2019). Despite the presence of ACEs, BCEs may protect individuals against exposure to adversity throughout their lives (e.g., Almeida et al., 2023; Bethell et al., 2019).

1.1. ACEs, BCEs, and alexithymia

Early-life adversity can heighten the risk of persistent emotional instability (Ardizzi et al., 2024). Childhood emotional abuse increases this instability, affecting emotional bonds and emotional expression in adulthood (Almeida & Redondo, 2025). Such adverse experiences often compromise emotional verbalization and reflection, leading to affective processing deficits, which are frequently linked to alexithymic traits (Cerqueira & Almeida, 2023).

Alexithymia is characterized by significant difficulties in identifying, verbalizing, and communicating emotions (Salokangas et al., 2024) and encompasses competences such as difficulty identifying and describing feelings. It involves a cognitive style that focuses on external stimuli and events, tending to avoid introspection and the processing of internal emotional experiences (Chaim et al., 2024).

BCEs help individuals develop social and emotional skills, self-control, resilience, and problem-solving (Crouch et al., 2023). These experiences can improve emotional intelligence and regulation (Lowe et al., 2024), serving as a protective factor against alexithymia (Yilziz & Tas, 2024). Although few studies have linked BCEs with alexithymia, positive parenting can enhance life experiences and mitigate alexithymic symptoms (Pellerone et al., 2017).

1.1.1. ACEs, BCEs, and alexithymia in perpetrators of sex crimes

Individuals exposed to ACEs have a greater predisposition to manifest severe behavioral problems (Chopin et al., 2023), which are commonly observed in perpetrators of sex crimes (e.g., aggression, sexual disorders) (Kahn et al., 2021). Early adversity may increase risky sexual behavior (Grady et al., 2022), as they are more likely to violate the boundaries of others through sexual aggression (Yoder et al., 2018).

Developmental psychopathology theory can explain how ACEs can lead to sexual offending (Toth & Cicchetti, 2013), suggesting that ACEs and BCEs influence how affective and cognitive processes interact, shaping behavioral patterns (Chopin et al., 2022). When ACEs affect skill acquisition, development is compromised, leading to maladaptive behaviors (e.g., antisocial behavior, difficulties in emotional regulation), increasing the risk of sexual offending (Cicchetti & Banny, 2014). Conversely, BCEs provide a solid foundation that fosters resilience, emotional regulation, self-control, and empathy, serving as protective factors against maladaptive trajectories and mental health issues (Almeida et al., 2021).

Studies suggest that specific ACEs (e.g., emotional neglect and emotional abuse) have been related to high levels of alexithymia (Ditzer et al., 2023). Individuals with alexithymia struggle to recognize and empathize with others' emotions (McQuarrie et al., 2023), often show emotional detachment (Chaim et al., 2024), and antisocial behavior (Velotti et al., 2016), including sex offending (Hawkins et al., 2020). Alexithymia is associated with deficits in empathy, difficulties in emotional processing (Luminet et al., 2021), and challenges in recognizing and interpreting affective states (Gosch et al., 2024). This emotional impairment has been observed in individuals who display sexually aggressive behavior (Gillespie et al., 2018).

It was found that convicted individuals display significantly higher alexithymia scores than community individuals (Almeida & Redondo, 2025), with perpetrators of sex crimes showing significant deficits in the ability to identify and interpret emotions when compared to non-offenders (Byrne et al., 2016). Limited ability to recognize victims' feelings may be a risk factor for sexual offending (Virolle et al., 2024).

1.2. The present study

Childhood experiences play a crucial role in the development of alexithymia and the formation of lifelong behaviors (Almeida & Redondo, 2025). ACEs are widely linked to adverse mental health and behavioral outcomes, including a predisposition to sexual crimes (Kahn et al., 2021). However, BCEs promote resilience and mitigate the impact of adversity (Merrick et al., 2019). The presence of ACEs and the absence of BCEs, combined with high levels of alexithymia, may heighten the propensity for sexual offending (Hawkins et al., 2020).

To the best of our knowledge, there is no research on the relationship between ACEs, BCEs, and alexithymia in perpetrators of sex crimes, making this study essential.

1.2.1. Objectives

This research aims to analyze the relationship between childhood experiences and alexithymia in both community samples and perpetrators of sex crimes, and to examine differences between these groups concerning ACEs, BCEs, and alexithymia. The study also aims to analyze the predictors of alexithymia.

2. Method

2.1. Participants

The study's sample consisted of 732 male participants, aged from 18 to 84 ($M = 36.7$, $SD = 14.8$). Most participants were single ($n = 430$, 58.7 %), and many had completed high school ($n = 306$, 41.8 %). The sample included participants from the community ($n = 523$, 71.4 %), aged between 18 and 78 ($M = 33$, $SD = 14.3$). Most were Portuguese ($n = 507$, 97 %), single ($n = 348$, 65.5 %), and many had completed high school ($n = 252$, 48.2 %). The study also comprised perpetrators of sex crimes ($n = 209$, 28.6 %) aged between 23 and 84 ($M = 46.2$, $SD = 11.3$). Most were Portuguese ($n = 181$, 86.7 %), many were single ($n = 82$, 39.2 %), and had completed high school ($n = 54$, 25.8 %). Among the perpetrators of sex crimes, 159 (75.6 %) were first-time perpetrators. Sexual offenses in this sample include sexual abuse of minors ($n = 115$, 55 %), rape ($n = 64$, 30.6 %), possession and distribution of child pornography ($n = 17$, 8.1 %), attempted rape ($n = 5$, 2.4 %), sexual coercion ($n = 4$, 1.9 %), sexual abuse of an incapacitated person ($n = 3$, 1.4 %), and incitement to prostitution involving minors ($n = 1$, 0.5 %). The victims of these offenses primarily included children ($n = 123$, 58.4 %) and a smaller number of adults ($n = 67$, 32.1 %). Most perpetrators ($n = 150$, 71.8 %) reported previously knowing their victim. Additionally, 85 participants (40.7 %) reported a familial relationship with the victim, while 90 (43.1 %) reported no such connection (see supplementary material, Table 1, for more details).

2.2. Measures

The **Sociodemographic Questionnaire** was developed to collect information on participants' age, gender, ethnicity, marital status, nationality, educational level, socioeconomic status, type of offense, recidivism conviction, type of sex crime victim, whether they knew the victim, and their relationship with the victim.

The **Adverse Childhood Experiences Questionnaire** (ACE; Felitti et al., 1998; Portuguese version: Pinto et al., 2014) is a self-report measure designed to assess adverse childhood experiences that occurred before the age of 16. It comprises 17 items across 10 domains: Emotional Abuse, Physical Abuse, sexual abuse, Emotional Neglect, Physical Neglect, Parental Separation or Divorce, Exposure to Domestic Violence, Household Substance Use, Mental Illness or suicide, and having a household member in prison. Higher scores on the instrument indicate a greater number of adverse experiences. In this study, the internal consistency was 0.88 for the total scale, 0.69 for Emotional Abuse, 0.64 for Physical Abuse, 0.66 for Sexual Abuse, 0.70 for Emotional Neglect, 0.58 for Physical Neglect, and 0.80 for Exposure to Family Dysfunction.

The **Benevolent Childhood Experiences Scale** (BCEs; Narayan et al., 2018; Portuguese version; Almeida et al., 2021) is a 10-item self-report measure designed to assess positive and supportive experiences from birth to age 18. It includes safety, nurturing relationships, and a positive and predictable quality of life. Higher scores mean more benevolent experiences. The internal consistency in this study was 0.73.

The **Toronto Alexithymia Scale** (TAS-20; Taylor et al., 1992; Portuguese version; Praceres et al., 2000) is a 20-item self-report questionnaire. The TAS-20 evaluates alexithymia across three dimensions: Difficulty in Identifying Feelings (DIF), Difficulty in Describing Feelings (DDF), and Externally Oriented Thinking (EOT). In this study, the internal consistency was 0.82 for the total scale, 0.86 for Difficulty in Identifying Feelings, 0.69 for Difficulty in Describing Feelings, and 0.50 for Externally Oriented Thinking.

2.3. Procedure

The study adhered to the ethical principles outlined in the Declaration of Helsinki (World Medical Association, 2024), and the study protocol was approved by the University Ethics Committee. Finalizing the research protocol required about 20 minutes, and all procedures adhered to ethical standards, ensuring anonymity and confidentiality. Both samples consisted of adults proficient in reading and writing Portuguese and without a mental illness diagnosis.

The Directorate General of Reintegration and Prison Services – Ministry of Justice (DGRSP-MJ) has authorized the collection of data. Prison directors were contacted to explain the study's aims, methodology, and data collection timetable. Potential participants from the perpetrators of sex crimes sample were identified and approached by prison staff. All individuals received detailed information about the study's purpose and were invited to participate voluntarily. Informed consent was obtained, clarifying voluntariness, confidentiality, and the absence of compensation. Assessments were administered individually on paper in a private room within the prison to ensure confidentiality and anonymity.

Data from the community sample were collected via an online survey (Qualtrics). Participants were recruited through social media platforms (e.g., Facebook, Instagram, WhatsApp) and provided digital informed consent to participate in the research protocol.

2.4. Statistical analysis

The statistical analyses were performed using the Statistical Package for the Social Sciences (SPSS) Software, version 30.0. Descriptive statistics were used to summarize the sample characteristics. Pearson's correlation coefficients were calculated to examine the associations between the variables. To compare the community and perpetrators of sex crimes samples, ANCOVA tests were conducted while controlling for relevant demographic covariates. Finally, multiple linear regression analyses were performed to identify significant predictors of alexithymia. Across all statistical analyses (correlations, ANCOVA, and regressions), p -values were adjusted using the Benjamini-Hochberg false discovery rate (FDR) procedure (Benjamini & Hochberg, 1995). The false discovery rate

was set at $q = 0.05$. The EOT subscale of the TAS-20 and the Physical Neglect of the ACE were not used, as they showed internal consistency coefficients below what is considered acceptable (e.g., 60–70) (Griethuijzen et al., 2015), reflecting low reliability of the measures.

3. Results

3.1. Correlation analyses

3.1.1. Community sample

The results within the community sample (see supplementary material, Table 2, for more details) show statistically significant negative small correlations between BCEs and TAS, DIF, DDF, ACEs, Emotional Abuse, Physical Abuse, Sexual Abuse, Emotional Neglect, Violence Exposure, Family Substance Abuse, and Mental Illness/Suicide.

Regarding the data on the TAS, the results indicate statistically significant positive correlations with ACEs and all its subscales, except for Parental Divorce and Imprisonment of a Family Member. Regarding the TAS subscales, DIF shows statistically significant positive correlations with the total ACEs, Emotional Abuse, Physical Abuse, Sexual Abuse, Emotional Neglect, Violence Exposure, Family Substance Abuse, and Mental Illness/Suicide. The DDF reveals statistically significant positive correlations with the total ACEs, Emotional Abuse, Sexual Abuse, Emotional Neglect, Parental Divorce, Violence Exposure, Family Substance Abuse, and Mental Illness/Suicide.

3.1.2. Perpetrators of sex crimes sample

The results from the perpetrators of sex crimes sample (see supplementary material, Table 2, for more details) reveal statistically significant negative correlations between BCEs and ACEs, Emotional Abuse, Physical Abuse, Emotional Neglect, Violence Exposure, Family Substance Abuse, Mental Illness/Suicide, Sexual Abuse, TAS, DIF, and DDF. Correlations are mostly medium (BCEs and ACEs; BCEs and Emotional Abuse) and small (BCEs and TAS). Concerning the data about the TAS, the results exhibit statistically significant positive correlations between ACEs, Sexual Abuse, Emotional Neglect, and Family Substance Abuse. Regarding the TAS subscales, DIF reveals statistically significant positive correlations between the total ACEs, Emotional Abuse, Sexual Abuse, Emotional Neglect, and Family Substance Abuse. The DDF indicates statistically significant positive correlations between the total ACEs, Emotional Abuse, Sexual Abuse, Emotional Neglect, and Family Substance Abuse. Correlations are all small.

The scatter plots and standardized z-scores revealed the presence of a few univariate and bivariate outliers. These cases were retained in the analyses, as they reflected actual values within the sample and did not substantially affect the correlation coefficients.

All reported results correspond to p -values adjusted using the Benjamini-Hochberg procedure (FDR = 0.05). While all analyses remained significant after adjustment, some that were initially significant no longer met the corrected threshold (e.g., Physical Abuse with DDF). See the supplementary material, Table 3, for more details.

3.2. Group differences

To compare the community with the perpetrators of sex crimes sample (see supplementary material, Table 4, for more details), we perform an ANCOVA that includes covariates such as marital status, age, education level, and socioeconomic status. These groups differ significantly in these demographic variables, requiring statistical control. The adjusted means indicated that the perpetrators of sex crimes group showed higher values of Emotional Abuse, Physical Abuse, Sexual Abuse, Emotional Neglect, Parental Divorce, Violence Exposure, Family Substance Abuse, Mental Illness/Suicide, Imprisonment of a Family Member, the total ACEs, DIF, DDF, and the total TAS than the community group. On the other hand, the community group shows higher values in BCEs.

The analysis is statistically significant. However, the effect size is small in Emotional Abuse ($\eta^2 = 0.05$), Sexual Abuse ($\eta^2 = 0.05$), Parental Divorce ($\eta^2 = 0.03$), Family Substance Abuse ($\eta^2 = 0.05$), Imprisonment of a Family Member ($\eta^2 = 0.04$), and BCEs ($\eta^2 = 0.05$). Additionally, the effect size is medium in Physical Abuse ($\eta^2 = 0.07$), Emotional Neglect ($\eta^2 = 0.07$), Violence Exposure ($\eta^2 = 0.08$), the total ACEs ($\eta^2 = 0.09$), the total TAS ($\eta^2 = 0.09$), DIF ($\eta^2 = 0.08$), and DDF ($\eta^2 = 0.08$).

All p -values reported results are adjusted using the Benjamini-Hochberg procedure (FDR = 0.05). All analyses stayed significant after adjustment (see supplementary material, Table 5, for more details).

3.3. Regression analysis

3.3.1. Community sample

A multiple linear regression analysis was conducted to examine the predictors of DIF in the community sample (see supplementary material, Table 6, for more details). Age, educational level, and marital status were included as control variables. The explanatory model is significant [$F(4,518) = 33.50, p < 0.001$]. Durbin-Watson is 2.10, and VIF is < 3 . Emotional Abuse, Physical Abuse, Sexual Abuse, Violence Exposure, Family Substance Abuse, and Imprisonment of a Family Member are not significant. For this reason, another model was tested that included only the statistically significant paths. The model explains 20 % of the variance of Difficulty Identifying Feelings. Age was found to be significant ($\beta = -0.19, p < 0.001$), indicating that age influences the Difficulty in Identifying Feelings. Emotional Neglect ($\beta = 0.19, p < 0.001$), Mental Illness/Suicide ($\beta = 0.10, p = 0.015$), and BCEs ($\beta = -0.22, p < 0.001$) significantly predict the Difficulty Identifying Feelings.

A multiple linear regression analysis was conducted to examine the predictors of DDF in the community sample (see supplementary

material, Table 7, for more details). Age, educational level, and marital status were included as control variables. The explanatory model is statistically significant [$F(4,517) = 21.11, p < 0.001$]. Durbin-Watson is 2.17, and VIF is <3 . Emotional Abuse, Physical Abuse, Emotional Neglect, Violence Exposure, Parental Divorce, Mental Illness/Suicide, Family Substance Abuse, and Imprisonment of a Family Member are not significant. For this reason, another model was tested that included only the statistically significant paths. The model explains 13 % of the variance of Difficulty Describing Feelings. Age ($\beta = -0.23, p < 0.001$) and Education Level ($\beta = -0.11, p = 0.009$) were found to be significant, indicating that both variables influence the Difficulty in Describing Feelings. Sexual Abuse ($\beta = 0.13, p = 0.003$) and BCEs ($\beta = -0.20, p < 0.001$) significantly predict the Difficulty Describing Feelings.

3.3.2. Perpetrators of sex crimes sample

A multiple linear regression analysis was conducted to examine the predictors of DIF in the perpetrators of sex crimes sample (see supplementary material, Table 8, for more details). Age, educational level, and marital status were included as control variables. The explanatory model is significant [$F(5,202) = 9.10, p < 0.001$]. Durbin-Watson is 2.06, and VIF is <3 . Emotional Abuse, Physical Abuse, Emotional Neglect, Parental Divorce, Mental Illness/Suicide, and Imprisonment of a Family Member are not significant. For this reason, another model was tested that included only the statistically significant paths. The model explains 16 % of the variance of Difficulty Identifying Feelings. Education Level was found to be significant ($\beta = -0.20, p = 0.002$), indicating that education level influences the Difficulty in Identifying Feelings. Sexual Abuse ($\beta = 0.23, p < 0.001$), Violence Exposure ($\beta = -0.24, p = 0.001$), Family Substance Abuse ($\beta = 0.21, p = 0.005$), and BCEs ($\beta = -0.18, p = 0.013$) significantly predict the Difficulty Identifying Feelings.

A multiple linear regression analysis was conducted to examine the predictors of DDF in the perpetrators of sex crimes sample (see supplementary material, Table 9, for more details). Age, educational level, and marital status were included as control variables. The explanatory model is statistically significant [$F(3,204) = 11.43, p < 0.001$]. Durbin-Watson is 2.24, and VIF is <3 . Emotional Abuse, Physical Abuse, Emotional Neglect, Parental Divorce, Mental Illness/Suicide, Violence Exposure, Family Substance Abuse, and Imprisonment of a Family Member are not significant. For this reason, another model was tested that included only the statistically significant paths. The model explains 13 % of the variance of Difficulty Describing Feelings. Education Level was found to be significant ($\beta = -0.15, p = 0.025$), indicating that education level influences the Difficulty in Identifying Feelings. Sexual Abuse ($\beta = 0.18, p = 0.007$) and BCEs ($\beta = -0.25, p < 0.001$) significantly predict the Difficulty Describing Feelings.

P-values reported in all regressions have been corrected using the Benjamini-Hochberg procedure (FDR = 0.05). All findings remained statistically significant after adjustment (see supplementary material, Table 10, for more details).

4. Discussion

In the present study, we verified a relationship between alexithymia and ACEs in both samples. ACEs can impair the normal development of emotional regulation processes, enhancing the manifestations of alexithymia (Honkalampi et al., 2020). The results showed a relationship between emotional neglect and increased levels of alexithymia, including difficulty identifying and describing feelings, in both samples. These results align with other studies (Almeida & Redondo, 2025; Cerqueira & Almeida, 2023). Deprivation of basic needs and limited emotional vocabulary can lead to emotional difficulties (Zhang et al., 2022). Without emotional support, emotional challenges can persist into adulthood, contributing to the development of alexithymia (Ditzer et al., 2023).

Our results showed a relationship between emotional abuse and alexithymia, difficulty recognizing and describing feelings, in both samples. Research indicates that emotional abuse is more prevalent in dysfunctional families (Brown et al., 2018), where children lack emotional regulation skills because abusive parents do not teach adaptive strategies to deal with emotional difficulties (Milojevich et al., 2020). Violence exposure was also linked to alexithymia, such as difficulty identifying and describing feelings, in the community sample. This is corroborated by the literature, which states that recurrent exposure can impair the development of emotional regulation, reducing the ability to recognize, understand, and express emotions (Almeida & Redondo, 2025). The results also show a link between family substance abuse and alexithymia, including difficulty identifying and describing feelings, in both samples. Parental substance issues can impair attachment and healthy role modeling for emotion regulation, potentially resulting in the emotional separation of parent and child (Lander et al., 2013), which may hinder attachment and emotion regulation, causing alexithymia (Usaci & Puscasu, 2015).

Our findings point to a link between mental illness or suicide of a family member and alexithymia, including difficulty identifying and describing feelings, in the community sample. Parents' mental illness influences children's emotional, behavioral, and physiological regulation (Smith et al., 2022). Family dynamics and parenting influence emotional growth (Morris et al., 2017), with such disorders potentially impairing children's emotional recognition and processing (Li et al., 2023), which can contribute to the development of alexithymia (Scarzello, 2023). The study highlighted an association between sexual abuse and alexithymia in both samples. Victims of sexual abuse may develop a psychological defense, detaching from thoughts or feelings to cope with trauma (Brokke et al., 2022). This can hinder the recognition and labeling of recognitions (Härtwig et al., 2020) and cause difficulties in describing feelings (Fang et al., 2020). Physical abuse also demonstrated a relationship with alexithymia, such as difficulty identifying, in the community sample. Physically abused individuals may develop alexithymia to suppress or avoid confronting the distressing emotions linked to their trauma (Lu et al., 2024). In the community sample, difficulties in describing feelings were associated with parental divorce, which supports the existing literature (Zdankiewicz-Ścigala & Ścigala, 2020). This finding suggests that parental separation in childhood can lead to insecure attachment, hindering emotional understanding and expression (Smith-Etxeberria et al., 2022).

This study reveals a negative relationship between BCEs and ACEs, as well as their subscales, except for parental divorce and the imprisonment of a family member, in both samples. BCEs mitigate the development and increase of ACEs (Bethell et al., 2019), suggesting that these experiences may promote favorable outcomes regardless of ACEs exposure (Bethell et al., 2019). In this study,

BCEs also presented a negative relationship with alexithymia, difficulty in identifying and describing feelings. Alexithymia is negatively associated with well-being (Ünüböl et al., 2020), expressive ability (Yalçın & Hamarta, 2013), and adaptive emotion regulation (Velotti et al., 2016). Exposure to ACEs is linked to increased levels of alexithymia, while BCEs help enhance emotional awareness by providing model examples for validating emotional expression (Lambie & Lindberg, 2016).

The group difference analysis indicated that perpetrators of sex crimes present higher levels of ACEs, emotional abuse, physical abuse, sexual abuse, emotional neglect, divorce or parental separation, exposure to domestic violence, substance abuse in the family environment, mental illness or suicide of a family member, and imprisonment of a family member when compared to the community sample. Several studies have identified significantly higher rates of ACEs in perpetrators of sex crimes compared to community participants (Almeida & Costa, 2025; Kahn et al., 2021). These individuals often struggle with adult relationships (Satapathy et al., 2022), marked by intimacy deficits, emotional insensitivity, detachment, and a dismissive attachment pattern (Jespersen et al., 2009). This seems to contribute to aggressive sexual behavior (Andresen et al., 2024).

Perpetrators of sex crimes also experienced more difficulties identifying and describing feelings than the community sample. Those who commit sex crimes frequently exhibit deficits in recognizing emotional states, which may hinder their capacity to perceive victims' suffering, weakening moral restraints, and increasing the risk of sexual offenses (Gillespie et al., 2021). These limitations in empathy and emotional interpretation are considered potential risk factors for sexual offending (Virolle et al., 2024). On the other hand, the community participants showed higher scores of BCEs. Childhood ideally should encompass more BCEs than ACEs, enabling minimization of victimization and adversity later in life (Almeida et al., 2021). Nonetheless, perpetrators of sex crimes often endure traumatic and abusive childhoods (Kahn et al., 2021).

Regarding regression analysis in the community sample, our results showed that emotional neglect predicts more difficulties in identifying feelings. Researchers suggest that a lack of emotional support during childhood impairs the development of emotional regulation skills (Ditzer et al., 2023; Khan & Jaffee, 2022). Mental illness or the suicide of a family member has also been revealed to be a predictor of difficulty identifying feelings. Our findings can be explained by the stress-alexithymia hypothesis that suggests that ongoing stress can diminish emotional awareness (Li et al., 2023), particularly in families facing mental illness (Kamis, 2021). Individuals experiencing prolonged stress often struggle to recognize and process their emotions, which can lead to alexithymic characteristics (Li et al., 2023). We also found that age influences difficulties in identifying and describing feelings, with younger individuals expressing more issues in these areas. Adolescents' emotional intelligence improves as they enter adulthood, suggesting ongoing development of cognitive skills to distinguish and identify emotions (Nook et al., 2018). Articulating emotions also relies on language and social learning (Lindquist et al., 2015). Therefore, younger individuals may lack the vocabulary or social experiences to describe their feelings effectively (Hancock et al., 2023).

In the perpetrators of sex crimes sample, our findings revealed that family substance abuse predicts more difficulties in identifying feelings. Research shows that parents' substance abuse, especially alcohol, can lead to their inability to provide a predictable and safe family environment and to respond sensitively and consistently to their children's emotional needs (Raitasalo et al., 2019). Such emotional maltreatment in childhood can compromise healthy emotional development in children and lead them to internalize the belief that expressing feelings is undesirable and punishable (Gaher et al., 2015). To cope with such adversities, children often resort to adaptive strategies that involve distancing themselves from their own emotional needs, which can lead to poor emotional awareness in adulthood (Brown et al., 2016). This trajectory increases the likelihood of greater difficulties in identifying feelings in adulthood (Ditzer et al., 2023). Our findings also revealed that violence exposure predicts less difficulty recognizing feelings in the perpetrators of sex crimes. In high-threat environments, children may become more attuned to emotional expressions as a survival mechanism (Pollak, 2008), enabling them to anticipate and respond to potential danger (Šimić et al., 2021). This adaptive mechanism involves becoming acutely sensitive to emotional cues, allowing individuals to navigate volatile situations more effectively (Šimić et al., 2021), which in turn leads to an improved ability to identify and understand emotions (Lane & Smith, 2021). Nevertheless, although this mechanism may enhance safety in risky situations by triggering behavioral responses to avoid threats, it can also increase vulnerability to developing psychopathology (e.g., depression, anxiety, post-traumatic stress disorder) (McLaughlin et al., 2020).

We also found that childhood sexual abuse predicts more difficulties in identifying and describing feelings in the sample of perpetrators of sex crimes. In the community sample, sexual abuse also predicts difficulty in describing feelings. Sexual abuse can disrupt emotional development, leading victims to experience dissociation, i.e., a psychological defense mechanism in which individuals detach from their thoughts or feelings to cope with overwhelming trauma (Brokke et al., 2022). This detachment can impair the ability to recognize and label their own emotions (Härtwig et al., 2020). Experiencing sexual abuse can also lead to emotional numbing as a way of coping with this traumatic incident (Zdankiewicz-Ścigała & Szczepaniak, 2018). This numbness refers to a reduced ability to feel or express emotions, often creating considerable difficulties describing feelings (Fang et al., 2020).

Both in the community sample and in the sample of perpetrators of sex crimes, low educational levels are associated with difficulties in identifying and describing feelings in adulthood. Nevertheless, this finding does not apply to the difficulty in identifying feelings in the community sample. Emotional processing difficulties can impact academic performance and access to educational opportunities (Rousseau et al., 2015), potentially increasing the likelihood of school dropout (Celestin & Faustin, 2024). Finally, in these two samples, few BCEs predicted difficulties in identifying and describing feelings. The lack of BCEs hinders the development of emotional awareness by limiting opportunities to model, practice, and receive validation for emotional expression (Lambie & Lindberg, 2016). Consequently, individuals may struggle to identify, understand, and effectively communicate their feelings (Maroti et al., 2018).

4.1. Limitations

This study offers valuable insights, although some limitations should be acknowledged. The potential cultural selection bias arising from the Portuguese national context and a sample consisting exclusively of men constitutes a limitation of the study, as it could restrict the generalization of the results. Another limitation is the self-reported data, which may be biased by social desirability and individual interpretation, leading some participants to withhold or distort information. The cross-sectional design prevents the assessment of temporal or causal relationships between variables, which can be a limitation. Additionally, the use of retrospective self-reported data may be subject to memory bias, which could potentially affect the accuracy of the information provided. Community recruitment may have introduced selection or volunteer bias, as individuals with a specific interest or motivation may have been more likely to participate. A further limitation concerns recruitment methods, as the community sample completed the protocol online, while perpetrators of sexual crimes responded on paper. This methodological discrepancy may have influenced participants' responses. Online sampling lacked environmental control and required internet access, thereby risking the collection of unrepresentative community data, while paper-based methods could increase bias among the perpetrators of sex crimes. Prison conditions, such as isolation, may influence findings due to difficulties in regulating emotions and emotional distress. Another limitation is that all types of BCEs were treated as a single, uniform category. This approach restricts the ability to examine the distinct protective effects of specific types of BCEs. Weak correlations and comparisons in some analyses suggest caution when interpreting results related to emotional abuse, emotional neglect, parental divorce, imprisonment of a family member, and BCEs. Some regression values should be interpreted with caution due to low reliability. These limitations underscore the need for careful data analysis and interpretation.

5. Conclusion

This study critically assesses the impact of ACEs and BCEs on alexithymia within a community and perpetrators of sex crimes sample, making it significant for the fields of Psychology and Criminology. It provides evidence linking ACEs and BCEs to alexithymia, especially highlighting more ACEs and difficulty identifying and describing feelings among perpetrators of sex crimes. This may relate to antisocial or deviant behavior (Velotti et al., 2016), like sexual offending (Hawkins et al., 2020). ACEs are related to emotional instability that can negatively impact mental and physical health, emotional bonds, and emotional expression in adulthood (Almeida & Redondo, 2025). Such experiences often disrupt emotional reflection and verbalization, frequently impairing affective processing that is often associated with alexithymia (Cerqueira & Almeida, 2023). Individuals with alexithymia usually struggle to recognize emotional states (McQuarrie et al., 2023), frequently exhibiting emotional detachment (Chaim et al., 2024) and enduring antisocial or deviant behavior, including sexual crimes (Hawkins et al., 2020). This limited emotional recognition can hinder the ability to perceive the suffering of others, weakening moral constraints and increasing the risk of sexual offending (Gillespie et al., 2021). Notably, this is the first study in Portugal highlighting BCEs' role in alexithymia among perpetrators of sex crimes.

5.1. Implications for practice

Understanding the long-term negative impacts of ACEs underscores the need for preventive strategies targeting parents to foster nurturing environments. These promote healthy development, prevent ACEs, and foster positive health behaviors (Merrick et al., 2017). The results support campaigns to enhance awareness about how childhood experiences influence adult behavior, particularly sexual offending.

This research highlights the need for comprehensive sexual health programs for all ages. Focusing solely on risks does not address young people's sexual realities or needs (Wang, 2024), but a positive approach acknowledging their sexual feelings is more effective (Kim et al., 2023). Such programs promote sexual autonomy, aiding in the understanding of desires and limits, which are crucial for growth and satisfaction through positive experiences (Ditzhuijzen & Overeem, 2025).

To understand the significance of BCEs, it is crucial to implement preventive programs that educate parents on providing a healthy and supportive environment during a child's development (Almeida & Costa, 2025). Psychoeducation helps caregivers grasp the role of a secure emotional environment in preventing alexithymic traits (Iuso et al., 2022), promoting healthier emotional awareness and processing (Iuso et al., 2022), and reducing problematic behaviors, including sex offenses (Taiki & Chekkouh, 2025).

Considering the high prevalence of ACEs and their association with alexithymia, those who experienced ACEs require specialized interventions (Cerqueira & Almeida, 2023). Psychological support must address the consequences of ACEs and alexithymia, helping perpetrators of sex crimes process trauma. Trauma-focused interventions can address unresolved trauma and emotional awareness and expression difficulties (Paivio & Pascual-Leone, 2023), reducing emotional numbness, improving emotional regulation, and lowering reoffending risk (Levenson et al., 2016). Further research is needed to understand how ACEs, BCEs, and alexithymia influence sex offending. This study will help create more effective prevention and intervention programs to reduce criminal behavior, incarceration, and recidivism.

CRediT authorship contribution statement

Bárbara Mestre Albuquerque: Writing – original draft, Resources, Methodology, Investigation, Formal analysis, Data curation.
Telma Catarina Almeida: Writing – review & editing, Validation, Supervision, Resources, Project administration, Methodology, Investigation, Funding acquisition, Data curation, Conceptualization, Formal analysis.

Ethics approval

The present research was approved by the Ethics Committee of the Egas Moniz School of Health and Science. All procedures were conducted in accordance with the ethical standards of the Institutional Ethics Committee and the Declaration of Helsinki.

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Declaration of competing interest

The authors report there are no competing interests to declare.

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Appendix A. Supplementary data

Supplementary data to this article can be found online at <https://doi.org/10.1016/j.chiabu.2025.107754>.

Data availability

Data will be made available on request.

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